



## Exotic Plant Control Team Serves Shenandoah

### Introduction

Nonnative (exotic) plants are invading Shenandoah and other national parks in the Mid- Atlantic area. This is harming native ecosystems and squeezing out native flora and fauna. North American landscapes have changed significantly from the days before Columbus due to exotics. Kudzu vine is the poster child of exotic plants, but kudzu is just one of many more. The National Park Service recognizes the harm being done and is gearing up to stem the tide of invasion. Exotic plant management teams are in place to assess and eradicate (where possible) or control the most invasive plants.



*Highly invasive kudzu vine on the east boundary of Shenandoah National Park.*

### Management Needs

The Mid- Atlantic region contains some of the most biologically diverse ecosystems in North America. At Shenandoah National Park alone there are over 1,350 documented terrestrial plant species. Unfortunately, there are also over 350 exotic plants in the mix. Many of them are aggressive or "invasive".

Invasiveness has to do with biological characteristics that allow them to grow rapidly and out- compete others for moisture, light, and nutrients. They do this through one or more of the following traits:

- » High rates of photosynthesis
- » Ability to withstand high microsite temperatures
- » Rapid early growth and maturity (overshadowing others)
- » Prolific reproductive capacity (rapid plant maturation to create seed; prolific seed production, rapid vegetative spread rates, etc.)
- » Long lived seeds, roots or rhizomes in the soil that resist site impacts such as grazing, fire, insects, drought, etc.
- » Production of biological toxins that inhibit the growth of other plants

- » Ability to use other plants, natural features, or structures to overcome natives (climbing vines that shade out other plants) and
- » Relative freedom from natural controls.

The result is a suite of plants that are harming native species and the environment.

### Current Procedures

To combat invasives and preserve and protect the natural and cultural resources of several parks including Shenandoah, a cooperative of national parks was formed in the Mid- Atlantic area. The cooperative directs an Exotic Plant Management Team to conduct and coordinate exotic plant management. The cooperative and team operate in 14 national parks in Virginia, Maryland, and Pennsylvania. Each park has their own locally derived objectives to reduce the impact and spread of weeds like mile- a- minute, kudzu, autumn olive, Johnson grass, and others. An integrated pest management approach including routine surveying and monitoring activities, immediate weed control tactics, and public education is employed.

Control methods include hand pulling, manual and power assisted cutting, prescribed fire, and herbicide application. Team members work closely with facility concessionaires, construction contractors and park staff to avoid new exotic plant introductions.



*Mid-Atlantic Exotic Plant Management Team spraying golden bamboo at a site on the park boundary.*

### Accomplishments

Highlights for 2004 include the following:

- » The team controlled over 25 invasive species in twelve national parks totaling 388 acres.
- » The team collaborated with Shenandoah National Park and two park neighbors to control bamboo along a mutual boundary.



## Exotic Plant Control Team Serves Shenandoah (continued...)

- » The cooperative of parks expanded its functional capacity by utilizing Student Conservation Association interns, volunteers, and initiating a private sector contract with excellent success.
- » Shenandoah National Park hosted a Congressional field tour, in cooperation with the USDA- Forest Service, on the subject of forest health issues including exotic plants.

The Mid- Atlantic Team Liaison sits on the Virginia Invasive Species Advisory Committee which has a mission to devise a state- wide invasive species watch list and draft a state- wide strategic invasive species plan.

### More Information

Protecting the natural legacy of the region is essential to assure that future generations enjoy its expanse and beauty.

A description of the Mid- Atlantic cooperative and Exotic Plant Management Team is found at the following websites:

<http://inside.nps.gov/regions/custompages.cfm?rgn=273&id=2482&lv=3&pgid=864>

[http://www1.nrintra.nps.gov/BRMD/invasivespecies/exoticplants/presentations/MAN\\_EPMT.pdf](http://www1.nrintra.nps.gov/BRMD/invasivespecies/exoticplants/presentations/MAN_EPMT.pdf).

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*The Mid-Atlantic team is made up of employees, volunteers, and a private contractor (not pictured).*